High Blood Cholesterol

Most people know that a diet high in fat and cholesterol clogs arteries and can lead to heart attacks, but this wasn't always common knowledge. The National Heart, Lung, and Blood Institute's landmark Framingham Heart Study, begun in 1948, defined the concept of risk factors for heart disease. We now know these risk factors include high blood pressure and cholesterol, smoking, obesity, diabetes, and a family history of early heart disease. Through NHLBI health campaigns and clinical guidelines, Framingham's findings became clear messages to help people improve their health, such as by quitting smoking or eating healthier.

During World War II, before the NHLBI's research began, two million Americans died from cardiovascular disease — many times more than those who died from conflict-related injuries in the war itself. Today, as a result of behavioral changes and effective medical and surgical treatments, cardiovascular disease deaths have plummeted. People are now also much more aware of their cholesterol levels, due in part to routine blood tests that measure cholesterol in their blood.

In 1985, NHLBI-supported researchers Michael S. Brown, M.D., and Joseph L. Goldstein, M.D., of the University of Texas Southwestern Medical Center at Dallas won the prestigious Nobel Prize in Physiology or Medicine for contributing to the understanding of how the body metabolizes cholesterol. Their discovery set the stage for an entirely new class of drugs, called statins, that alter the way the body makes and handles cholesterol. Statins have revolutionized cardiovascular disease prevention and treatment by helping millions of Americans who have heart disease, or who are at risk for it, lower their cholesterol.

The NHLBI will issue its next set of cholesterol clinical guidelines for doctors and their patients in 2011. NHLBI-funded studies have revealed that people can inherit a tendency for high blood cholesterol. This means we could one day have precise gene tests that screen for high cholesterol risk and enable prevention of heart disease and other complications.

Imagine the Future ...

Miniature plaque-detecting "smart" particles seek out clogged arteries and clear them without surgery.

Personal genome screening determines people's risk for high cholesterol, allowing them to prevent future heart disease.

The NIH's National Heart, Lung, and Blood Institute provides global leadership for research, training, and education programs to promote the prevention and treatment of heart, lung, and blood diseases and enhance the health of all individuals so that they can live longer and more fulfilling lives.